



# ANALYTICAL REPORT

## Preliminary Report

Report Date: Reporting not yet complete

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Workorder: **34-1703278**

Client Project ID: PH3-BR1-28012017-81 012817

Purchase Order: 6-013017-075134-0001

Project Manager: Paul Pope

### Analytical Results

Sample ID: PH3-BR1-28012017-81		Collected: 01/28/2017		
Lab ID: 1703278001		Received: 01/31/2017		
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)	Prepared: 01/31/2017	
Sampling Parameter: Air Volume 240 L		Analyzed: 02/01/2017		
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	6.3	0.026	0.019	5.5

Sample ID: PH3-BR2-28012017-81			Collected: 01/28/2017	
Lab ID: 1703278002		Sampling Location: Bedroom 2		Received: 01/31/2017
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)		Prepared: 01/31/2017
		Sampling Parameter: Air Volume 240 L		Analyzed: 02/01/2017
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	6.4	0.027	0.019	5.5

Sample ID: PH3-BR3-28012017-81			Collected: 01/28/2017	
Lab ID: 1703278003		Sampling Location: Bedroom 3		Received: 01/31/2017
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)		Prepared: 01/31/2017
		Sampling Parameter: Air Volume 240 L		Analyzed: 02/01/2017
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	<5.5	<0.023	<0.016	5.5

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### Analytical Results

Sample ID: PH3-BTH1-28012017-81			Collected: 01/28/2017	
Lab ID: 1703278004		Sampling Location: Bathroom 1		Received: 01/31/2017
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)		Prepared: 01/31/2017
Sampling Parameter: Air Volume 240 L			Analyzed: 02/01/2017	
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	5.8	0.024	0.018	5.5

Sample ID: PH3-BTH1-28012017-82			Collected: 01/28/2017	
Lab ID: 1703278005		Sampling Location: Bathroom 1		Received: 01/31/2017
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)		Prepared: 01/31/2017
Sampling Parameter: Air Volume 240 L			Analyzed: 02/01/2017	
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	7.1	0.030	0.021	5.5

Sample ID: PH3-BTH2-28012017-81			Collected: 01/28/2017	
Lab ID: 1703278006		Sampling Location: Bathroom 2		Received: 01/31/2017
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)		Prepared: 01/31/2017
		Sampling Parameter: Air Volume 240 L		Analyzed: 02/01/2017
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	<5.5	<0.023	<0.016	5.5

Sample ID: PH3-FB-28012017-85				Collected: 01/28/2017
Lab ID: 1703278007				Received: 01/31/2017
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)		Prepared: 01/31/2017
Sampling Parameter: Air Volume Not Applicable				Analyzed: 02/01/2017
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	6.6	NA	NA	5.5



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### Analytical Results

Sample ID: PH3-HVAC-28012017-81			Collected: 01/28/2017	
Lab ID: 1703278008		Sampling Location: HVAC System		Received: 01/31/2017
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)		Prepared: 01/31/2017
		Sampling Parameter: Air Volume 240 L		Analyzed: 02/01/2017
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	7.9	0.033	0.024	5.5

Sample ID: PH3-KTCH-28012017-81			Collected: 01/28/2017	
Lab ID: 1703278009		Sampling Location: Kitchen		Received: 01/31/2017
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)		Prepared: 01/31/2017
Sampling Parameter: Air Volume 240 L			Analyzed: 02/01/2017	
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	5.7	0.024	0.017	5.5

Sample ID: PH3-LAUN-28012017-81			Collected: 01/28/2017	
Lab ID: 1703278010		Sampling Location: Laundry Room		Received: 01/31/2017
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)		Prepared: 01/31/2017
		Sampling Parameter: Air Volume 240 L		Analyzed: 02/01/2017
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	7.1	0.029	0.021	5.5

Sample ID: PH3-LR-28012017-81			Collected: 01/28/2017	
Lab ID: 1703278011		Sampling Location: Laundry Room		Received: 01/31/2017
Method: OSHA 1003 Mod.		Media: SKC 225-9018, Glass fiber & polyester filter (Mercuric chloride on polyester)		Prepared: 01/31/2017
		Sampling Parameter: Air Volume 240 L		Analyzed: 02/01/2017
Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Phosphine	5.6	0.024	0.017	5.5

### Comments

Workorder: 1703278

The reported results for phosphine [PH3] are based upon analysis for elemental phosphorus that has been calculated by mathematical conversion of the elemental result using the molecular weight ratio and molar ratio of phosphorus to phosphine. The reported value presumes that all phosphorus present is in the form of phosphine.



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### Comments

#### Quality Control: OSHA 1003 Mod. - (HBN: 184732)

LMB 535775 was above the reporting limit for phosphorus (6.15 µg/sample) so the LCS 535776 and LCSD 535777 results have been media blank corrected for phosphorus with LMB 535775.

### Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
OSHA 1003 Mod.	/S/ Peter P. Steen 02/01/2017 12:38	***PENDING***

### Laboratory Contact Information

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Web: [www.alssl.com](http://www.alssl.com)

### General Lab Comments

The results provided in this report relate only to the items tested.  
Samples were received in acceptable condition unless otherwise noted.  
Samples have not been blank corrected unless otherwise noted.  
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ANAB (DoD ELAP)	ADE-1420	<a href="http://www.anab.org/accredited-organizations/">http://www.anab.org/accredited-organizations/</a>
	Utah (NELAC)	DATA1	<a href="http://health.utah.gov/lab/labimp/">http://health.utah.gov/lab/labimp/</a>
	Nevada	UT00009	<a href="http://ndep.nv.gov/bsdwlabservice.htm">http://ndep.nv.gov/bsdwlabservice.htm</a>
	Oklahoma	UT00009	<a href="http://www.deq.state.ok.us/CSDnew/">http://www.deq.state.ok.us/CSDnew/</a>
	Iowa	IA# 376	<a href="http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx">http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx</a>
	Texas (TNI)	T104704456-11-1	<a href="http://www.tceq.texas.gov/field/qa/lab_accred_certif.html">http://www.tceq.texas.gov/field/qa/lab_accred_certif.html</a>
	Washington	C596-16	<a href="http://www.ecy.wa.gov/programs/eap/labs/index.html">http://www.ecy.wa.gov/programs/eap/labs/index.html</a>
	Kansas	E-10416	<a href="http://www.kdheks.gov/lipo/index.html">http://www.kdheks.gov/lipo/index.html</a>
Industrial Hygiene	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
	Washington	C596-16	<a href="http://www.ecy.wa.gov/programs/eap/labs/index.html">http://www.ecy.wa.gov/programs/eap/labs/index.html</a>
Lead Testing:			
CPSC	ANAB (ISO 17025, CPSC)	ADE-1420	<a href="http://www.anab.org/accredited-organizations/">http://www.anab.org/accredited-organizations/</a>
Soil, Dust, Paint, Air	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	<a href="http://www.aihaaccreditedlabs.org">http://www.aihaaccreditedlabs.org</a>
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	<a href="http://www.aiclasscorp.com">http://www.aiclasscorp.com</a>



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#### Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.

LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.

ND = Not Detected, Testing result not detected above the LOD or LOQ.

NA = Not Applicable.

\*\* No result could be reported, see sample comments for details.

< This testing result is less than the numerical value.

( ) This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.